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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,381	07/18/2003	Lawrence R. Fishman	FSHTR-017XX	4376
207	7590	04/04/2005	EXAMINER	
WEINGARTEN, SCHURGIN, GAGNEBIN & LEOVICI LLP			WARREN, DAVID S	
TEN POST OFFICE SQUARE			ART UNIT	PAPER NUMBER
BOSTON, MA 02109			2837	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/622,381	FISHMAN, LAWRENCE R.	
	Examiner David S. Warren	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 July 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-26 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-13, 15-22 and 24-26 is/are rejected.
 7) Claim(s) 14, 23 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 18 July 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>10/23/03</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 8, 13, 15 – 18, and 24 – 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Fiumara (WO 91/15844). Regarding claims 1, 16, and 24, Fiumara discloses the use of an enclosure (see page 10, i.e., the cutout in elements 52 and 54 covered in epoxy is deemed an enclosure), a top projection (element 48 above element 50, fig. 8), a bottom projection (element 48 below element 50, fig. 8), an enclosed transducer (page 10, element 64), wherein the transducer is disposed between the first and second portions of a bridge leg. (Note: the examiner deems elements 52 and 54 to be both a portion of the bridge leg and functionally equivalent to a bridge leg).

Regarding claim 2, element 48 mates within a bore of element 58 (see figs. 8, 9, and 14). Regarding claim 3, element 48 must contact 64 (as well as 52 and 54) to be operable (see figs. 7, 8, 10, and 13). Regarding claim 4, element 48 is within 56 (fig. 10 – also see fig. 9). Regarding claim 5, Fiumara's element 48 is threaded for adjustment (see page 9, last paragraph, second sentence). Regarding claim 6, see Fiumara's

Abstract. Regarding claim 7, Fiumara discloses the use of an "output jack" (figs. 16, 17) which is synonymous with "jack-plug." Regarding claim 8, the transducer 64 is in contact with a bottom portion of 52 (see the relation between 64 and 52 in fig. 2). Regarding claim 13, the particle board cutout (in 52 and 54) covered with epoxy would yield a fluid tight volume. Regarding claims 15, 25, and 26, Fiumara discloses the use of bridge adjusters (page 10, lines 2 – 3). Regarding claim 17, the "substrate" is deemed to be that portion of 52 (or 54) beneath element 64 (fig. 2). Regarding claim 18, the use of a cable is inherent in any situation requiring an "output jack" used in conjunction with an amplifier. Regarding claim 24, implementation of the Fiumara apparatus would yield the method disclosed in Applicant's claim 24.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 – 12 and 19 – 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fiumara (discussed *supra*) in view of McClish (5,218,159). The teachings of Fiumara have been discussed *supra*. Regarding claim 9, Fiumara does

not disclose the use of a plural transducers. McClish discloses the use of piezoelectric elements (44, 45: fig. 6). Regarding claim 10, the circuit board is deemed to be the support and electrical system that connects and supports elements 44 and 45 of McClish. Regarding claims 11 and 12, see McClish elements 43 (resilient support) and 46 (spacer). Regarding claim 19, Fiumara does not disclose the use of a diaphragm in physical communication with at least a portion of the bridge. McClish discloses the use of diaphragm (13, figs. 1 and 2) which is in physical communication with a portion of a bridge (the "notched string-support" 12 is synonymous with a bridge since they both support the strings). Furthermore, the piezo element 14 lies within an enclosure (fig. 2). Regarding claims 20 and 21, see discussion above regarding claims 2 – 5. Regarding claim 22, both Fiumara and McClish disclose the use of piezoelectric transducers (Fiumara, first paragraph near middle of page 10, second sentence; McClish, col. 4, first paragraph). It would have been obvious to combine the teachings of Fiumara and McClish to obtain a string vibration transducer within a bridge adjuster having plural transducers or a diaphragm. The motivation for combining Fiumara and McClish to obtain the device having plural transducers is that, as McClish, discloses, is to reduce undesirable effects in the joint signal caused by variations in the string tension (col. 5, lines 23 – 29). The motivation for combining these references to obtain the device having a diaphragm is, as taught by McClish (col. 4, lines 59 - 60), is to create a pickup assembly equally responsive to plucking as to bowing. The Examiner notes that the Applicant's claims 9 – 12 and 19 – 22, constitute different embodiments, wherein the

McClish also contains two embodiments which, when combined with Fiumara, meet the limitations of these claims.

Allowable Subject Matter

Claims 14 and 23 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Regarding claim 14, the prior art does not disclose the use of a fluid-tight conduit, an external transducer, for converting pressure differentials in the volume to electrical signals. Regarding claim 23, the prior art does not disclose the use of a fluid-tight chamber and conduit, and a transducer for converting pressure differentials of a fluid to an electrical signal within a musical instrument.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents to Tomioka ('401), Johnson ('700), Martin et al. ('721), Ritchie ('946), Company ('986), Kislingbury ('430), Pfeil ('515), Steinberger ('120), Nakaya ('023), Dierdorf ('115), Yeakel ('792), Ekhaus ('488), Swan ('346), Schertler ('839), Clevinger ('002), Clevinger ('805), and Underwood ('084) all disclose the use of placing transducers beneath the bridges.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Warren whose telephone number is 571-272-2076. The examiner can normally be reached on M-F, 9:30 A.M. to 6:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2800 ext 37. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dsw



MARLON T. FLETCHER
PRIMARY EXAMINER